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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/576,886 | Applicant(s) KLUN, WOLFGANG | |
| | Examiner PAUL M. WEST | Art Unit 2856 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-79 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 78 and 79 is/are allowed.
- 6) ☒ Claim(s) 43-61 and 63-77 is/are rejected.
- 7) ☒ Claim(s) 62 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>08282006, 08022006, 06212006, 04242006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 44-58,60-73,75-77 and 79 are objected to because of the following informalities: Each of the claims is dependent on a canceled claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 43-47,50-52,54,56-58,63,67,69 and 74-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yodice et al. (5,023,133) in view of Assion (2004/0011715).
4. Regarding claims 43-47 and 63, Yodice et al. teach a filtering and measuring apparatus comprising: a filter housing with inlets 7 and an outlet 6; an oil filter element 8 disposed in the filter housing; a cylindrical measurement space in the filter housing in the interior of the filter element, enclosed by the filter 8; and a sensor 1 in a measuring device for the measurement of the acidity or pH of the oil located in the measurement space.
5. Yodice et al. do not teach the specific type of filter used. Assion teaches an oil filter which uses a microfilter made of cellulose, and which can filter out particles of one

micron or greater (Par. 0017). It would have been obvious to one of ordinary skill in the art to combine the teachings of Assion with the apparatus of Yodice et al. because a microfilter filters out more particles than a larger conventional filter and thereby extends the useful life of the oil.

6. Regarding claims 50-52, Yodice et al. teach the sensor 1 being inserted through an insertion opening in the topside of the filter housing, the opening being substantially aligned with the measurement space (Fig. 1).

7. Regarding claim 54, Yodice et al. teach a retaining section 3 in the insertion opening which is coupled to a second retaining section 2 on the measuring device in order to position the sensor stationary in the mounting space.

8. Regarding claims 56 and 57, the measurement space is proximal to both the inlets 7 and the outlet 6 of the filter housing.

9. Regarding claim 58, Yodice et al. do not teach there being a second sensor. However, it would have been obvious to one of ordinary skill in the art to provide multiple sensors because it would provide a more accurate measurement of a particular oil property.

10. Regarding claim 67, Yodice et al. teach the sensor 1 being arranged as a measuring head which is connected via attachments 3 and 5 to measuring electronics 4.

11. Regarding claim 69, Yodice et al. do not explicitly teach a display unit. However, they do teach that it is desirable to allow a driver to determine the measured acidity of the oil on an ongoing basis while the vehicle is in operation (Col. 4, lines 36-38). It

would have been obvious to one of ordinary skill in the art to convey this information to the driver using an optical display, because most measurements, such as fuel level, engine temperature, etc. are known to be displayed optically to a driver, and doing so allows the driver to monitor the measured condition while driving.

12. Regarding claims 74 and 75, Yodice et al. teach a method of measuring a characteristic of oil, comprising: providing a filtering apparatus having a filter housing with a filter element 8 inserted therein; inserting a sensor 1 of a measuring device into a measurement space located in the filter housing, wherein the sensor is enclosed by the filter material (see Fig. 1); measuring a characteristic of the oil (the acidity, Col. 4, lines 4-59); and evaluating the measured characteristic using measuring electronics 4 that are connected to the sensor 1 by leads 3 and 5.

13. Yodice et al. do not teach the specific type of filter used. Assion teaches an oil filter which uses a microfilter 21/22 . It would have been obvious to one of ordinary skill in the art to combine the teachings of Assion with the method of Yodice et al. because a microfilter filters out more particles than a larger conventional filter and thereby extends the useful life of the oil.

14. Regarding claims 76 and 77, Yodice et al. teach using the filtering apparatus in an oil circuit which serves to lubricate an engine (Col. 4, lines 29-59). The combination of Yodice et al. and Assion does not teach the engine being operated with a fuel containing rape methyl ester or biodiesel. However, it would have been obvious to one of ordinary skill in the art to use the filtering apparatus with any engine which needs to

be lubricated, all engines need to be lubricated and filtering the oil prevents wear and damage to the engine parts.

15. Claims 49,59-61,64,68 and 70-73 rejected under 35 U.S.C. 103(a) as being unpatentable over Yodice et al. in view of Assion and further in view of Wall (6,770,196).

16. Regarding claim 49, the combination of Yodice and Assion does not teach a removable housing cover adapted for replacement of the filter element. Wall teaches and oil filter for an engine which uses a removable housing cover 22 that is adapted for replacement of the filter element 36. It would have been obvious to one of ordinary skill in the art to combine the teachings of Wall with the combination of Yodice and Assion because it would allow the filter to be replaced which is more economical than disposing of the entire filtering apparatus.

17. Regarding claim 59, the combination of Yodice et al. and Assion teaches all of the limitations as set forth above but does not teach a removable housing cover adapted for replacement of the filter element. Wall teaches and oil filter for an engine which uses a removable housing cover 22 that is adapted for replacement of the filter element 36. It would have been obvious to one of ordinary skill in the art to combine the teachings of Wall with the combination of Yodice and Assion because it would allow the filter to be replaced which is more economical than disposing of the entire filtering apparatus.

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18. Regarding claims 60 and 61, Yodice et al. teach a retaining section 3 in the insertion opening which is coupled to a second retaining section 2 on the measuring device in order to position the sensor stationary in the mounting space.

19. Regarding claim 64, Yodice et al. teach the sensor measuring acidity or pH (Col. 3, lines 38-65).

20. Regarding claim 68, Yodice et al. teach the sensor 1 being arranged as a measuring head which is connected via attachments 3 and 5 to measuring electronics 4.

21. Regarding claims 70-73, Yodice et al. do not explicitly teach a display unit. However, they do teach that it is desirable to allow a driver to determine the measured acidity of the oil on an ongoing basis while the vehicle is in operation (Col. 4, lines 36-38). It would have been obvious to one of ordinary skill in the art to convey this information to the driver using an optical display, because most measurements, such as fuel level, engine temperature, etc. are known to be displayed optically to a driver, and doing so allows the driver to monitor the measured condition while driving. Furthermore, official notice is taken that it is common and well-known to use different colored lights (such as red, green, and yellow) to display information on a vehicle console, because the different colors are a quick way to alert a driver that something on the vehicle needs attention.

22. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yodice et al. in view of Assion and further in view of Engelmann (5,238,085).

23. Regarding claim 48, the combination of Yodice et al. and Assion teaches all of the limitations as set forth above but does not teach a shut-off device upstream of the inlet on the filter. Engelmann teaches an engine lubricant system with an oil filter 41 and a shut-off valve 39 upstream of the filter (Col. 4, lines 12-57). It would have been obvious to one of ordinary skill in the art to combine the teachings of Engelmann with the combination of Yodice et al. and Assion because it would allow control of the amount of oil transferred to the filter from the engine, and when using an oil sump as in Engelmann, would allow a user to easily maintain a proper amount of oil in the engine.

24. Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yodice et al. in view of Assion and further in view of Beylich et al. (2003/0179002).

25. Regarding claim 65, the combination of Yodice et al. and Assion teaches all of the limitations as set forth above but does not teach using a capacitive sensor to measure the dielectric constant of the oil. Beylich et al. teach using a capacitor to measure the dielectric constant of the oil to determine oil degradation (Par. 0012). It would have been obvious to one of ordinary skill in the art to use a capacitive sensor as taught by Beylich et al. with the combination of Yodice et al. and Assion because a capacitive sensor is simple, and economical to manufacture and operate and is a readily available type of sensor.

26. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yodice et al. in view of Assion and Wall, and further in view of Beylich et al.

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27. Regarding claim 66, the combination of Yodice et al., Assion, and Wall teaches all of the limitations as set forth above but does not teach using a capacitive sensor to measure the dielectric constant of the oil. Beylich et al. teach using a capacitor to measure the dielectric constant of the oil to determine oil degradation (Par. 0012). It would have been obvious to one of ordinary skill in the art to use a capacitive sensor as taught by Beylich et al. with the combination of Yodice et al., Assion and Wall because a capacitive sensor is simple, and economical to manufacture and operate, and is a readily available type of sensor.

28. Claims 43,50,53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wall in view of Kluen (DE 10015516) and Assion.

29. Regarding claims 43,50,53 and 55, Wall teaches a filtering apparatus comprising: a filter housing 18 with inlet and outlet; an oil filter element 36 disposed in the housing; a measurement space in the filter housing (space in center of filter element 36); and an insertion opening in the housing 18 which is adapted to be closed by a removable closing element 22. Wall does not teach the specific type of filter, or a measuring device.

30. Assion teaches using a microfilter 21/22 in an engine oil filter. It would have been obvious to one of ordinary skill in the art to combine the teachings of Assion with the apparatus of Wall because a microfilter filters out more particles than a larger conventional filter and thereby extends the useful life of the oil.

Allowable Subject Matter

31. Claims 78 and 79 are allowed.
32. Claim 62 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL M. WEST whose telephone number is (571)272-8590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Hezron Williams/
Supervisory Patent Examiner, Art Unit 2856